Federal Student Aid
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COD Guide to Fully Valid XML Documents

Federal Student Aid fully validates all Common Record batches against the published COD Common Record XML Schema before processing them. A school can use an XML validator program to test its XML files prior to sending them to the COD System. The document below provides step-by-step instructions for how a school uses an XML validator program with the posted COD XML schema files. These instructions are written using the 4.0e schema. Validation can be done with any previous schema following the same steps, except a school would need to save and use both the schema XSD and Value Range (VR) files for the desired previous schema version. Previous schema versions can be found on the [COD XML Schema page](#).

When using an XML validator tool, schools should keep a few things in mind:

- Use of an XML validator tool is optional, and a school will need to find the right XML validator tool based on its individual circumstances. Some schools may need to work directly with their technical staff or software provider to select an XML validator tool.

- In some cases, a school can download an XML validator tool to a computer. In other cases, a school can upload files to a web-based XML validator tool. ***Note:*** If a school opts to use a web-based XML validator tool and it has to upload files to run the validation, to ensure security of personally identifiable information, the school should use test data for the file upload.

- Federal Student Aid has validated the published COD XML Schema with some of the independent XML validator tools available, including XMLSpy and XML Notepad 2007.

Validation Steps

1. Download an XML Validator program. There are many free, open source XML Validator programs that can be downloaded from the internet. The program should have the functionality to validate an XML document against an XSD schema. The program will be used to validate a Common Record file against the Common Record schema.

2. Navigate to the IFAP website to download version 4.0e of the Common Record schema.

3. Navigate to the bottom of the page for the schema link (labeled "XML Common Record 4.0e in XML Code").

4. Open the Common Record 4.0e schema link. Right-click and save the Common Record 4.0e schema as an XSD file. For some of the previous schema versions (4.0a and prior), you must also open and save the separate Value Range (VR) file. ***Note:*** The name of the file must follow the convention "CommonRecordXXx.xsd" where the version of the schema replaces the X's.

5. Open the XML validator downloaded in Step #1. Load the Common Record file to be validated into the application.

6. Through the XML validator, assign the XML file to the XSD schema. The file must be assigned to the Common Record 4.0e schema—from step #4—for validation. For some of the previous schema versions, the file must be assigned to ***both*** the Common Record schema as well as the Common Record VR schema.

7. Validate the XML file against the schema. The program will identify errors encountered in XML validation. Locate and fix all XML errors until the file is fully valid against the schema.

Error Examples

XML Error Type	Error Description	Error Example	How to Fix
cvc-maxLength-valid	String is too long	cvc-maxLength-valid: Value '123456789U14G23232323' with length = '21' is not facet-valid with respect to maxLength '20' for type '#AnonType_SchoolNoteMessage'.	Reduce length of value within <SchoolNoteMessage> to 20 characters.
cvc-datatype-valid.1.2.1	Value is not valid for data type	cvc-datatype-valid.1.2.1: '0110-11-42' is not a valid value for 'date'.	Fix date to a valid date CCYY-MM-DD.
cvc-attribute.3	Required attribute missing	cvc-attribute.3: The value '00' of attribute 'Number' on element 'Disbursement' is not valid with respect to its type, '#AnonType_NumberDisbursementType'.	The value of the attribute 'Number' on element 'Disbursement' must be between 01-99.
cvc-minLength-valid	String is too short	cvc-minLength-valid: Value '' with length = '0' is not facet-valid with respect to minLength '1' for type '#AnonType_AddressLineAddressType'.	Increase the length of the value within <AddressLine> to at least 1 character.
cvc-enumeration-valid	Value not in set of valid options	cvc-enumeration-valid: Value ' ' is not facet-valid with respect to enumeration '[W, V, S]'. It must be a value from the enumeration.	Change the value within the tag to one of W, V, or S. The provided value of "space" is not valid.
cvc-type.3.1.3	Element not valid	cvc-type.3.1.3: The value ' ' of element 'AbilityToBenefitCompletionDate' is not valid.	Change the value within the tag to a valid value per the published schema.
cvc-complex-type.3.2.2	Attribute 'xsi:schemaLocation' is not allowed to appear in element	cvc-complex-type.3.2.2: Attribute 'xsi:schemaLocation' is not allowed to appear in element 'CommonRecord'.	Check the <CommonRecord> tag and change the namespace to match the published schema.
cvc-elt.3.1	Non-nillable field	cvc-elt.3.1: Attribute 'http://www.w3.org/2001/XMLSchema-instance,nil' must not appear on element 'AddressLine', because the {nillable} property of 'AddressLine' is false.	The field listed is not nillable per the schema. Add a value to the tag or remove tag if the tag is optional (minOccurs = 0)
cvc-complex-type.2.3	Element contains children, but is defined as element-only	cvc-complex-type.2.3: Element 'Birth' cannot have character [children], because the type's content type is element-only.	The value for birth date should be within the <BirthDate> field nested within the <Birth> complex element.
cvc-length-valid	String length is wrong (length has to be exact)	cvc-length-valid: Value '01' with length = '2' is not facet-valid with respect to length '1' for type '#AnonType_StudentLevelCode'.	The length of the value within the tag must match the length specified in the published schema

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XML Error Type	Error Description	Error Example	How to Fix
cvc-minInclusive-valid	Number is too small	cvc-minInclusive-valid: Value '-1881.00' is not facet-valid with respect to minInclusive '0.0' for type 'SmallCurrencyType'.	The value must be increased to at least match the minInclusive value for the field.
cvc-pattern-valid	String format wrong	cvc-pattern-valid: Value '123-45-67' is not facet-valid with respect to pattern '\d{7}|\d{8}|\d{9}|\d{3}-\d{2}-\d{4}' for type 'SSNType'.	SSN must be formatted in one of the following patterns: xxxxxxx xxxxxxxx xxxxxxxxx xxx-xx-xxxx
cvc-maxInclusive-valid	Number is too large	cvc-maxInclusive-valid: Value '107' is not facet-valid with respect to maxInclusive '99' for type '#AnonType_NumberDisbursementType'.	The value within the tag must be reduced to fall equal to or below the maxInclusive value.

Other general XML file formatting notes:

- Invalid character or invalid byte - Document contains non-UTF8 characters
- Content not allowed before <?xml tag
- Content is not allowed in trailing section - 0xFF character after </CommonRecord>
- Opening tag exists but end tag is missing
- xsi:nil doesn't have ="true" but uses HTML escape sequence for double quote instead (xsi:nil="true&quot)
- XML version is not supported (needs to be 1.0) - <?xml version="3.0"?>; version 3.0 does not exist
- XML document structures must start and end within the same entity - <tag1>value<tag2>
- XML does not begin with <?xml
- Catastrophic xml formatting error, e.g. file is email message